

# CLIMATE NEWS

## SPECIAL OCEANS EDITION

From Sheldon Whitehouse, Barbara Boxer, Jeff Merkley, and Brian Schatz  
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### Climate Change Weirding New England Waters



A new scientific study says that rapidly warming waters off the New England coast have had a severe consequence — the collapse of a cod fishery that saw too many catches even as overall cod numbers declined. Last November, the National Oceanic and Atmospheric Administration announced sharp restrictions on cod fishing in the area, with harsh consequences for fishing dependent communities. The effect of warm waters on Atlantic cod likely occurs because of a harmful effect on larvae and juvenile fish. The disaster for the fishery wasn't caused by temperatures alone — it was also caused by how humans failed to take them into account. In effect, cod were overfished because ocean warming wasn't adequately considered in fishing quotas. The paper reports from 2004-2013, the Gulf of Maine, the ocean region extending from Cape Cod northeast to the southern tip of Nova Scotia, warmed up by a stunning 0.41 degrees Fahrenheit per year. That's faster warming than occurred in 99.9 percent of the rest of the world ocean, the scientists say. During the same time period, this fishery's managers reduced cod quotas, but not enough. As a consequence, the overall cod stock now stands at just 4 percent of its optimum size. ([Washington Post](#))

### Global Bleaching Event Devastating Coral Reefs

Triggered by global warming and the El Niño, record hot ocean water is causing fragile coral to go white and often die, threatening picturesque reefs that are hotspots of marine life. The spread of sickly white started more than a year ago in Guam, then devastated Hawaii, infected the rest of the tropical Pacific and Indian Oceans and has now infested Florida and the Caribbean. "We may be looking at losing somewhere in the range of 10 to 20 percent of the coral reefs this year," NOAA coral reef watch coordinator Dr. Mark Eakin said. "The bad news for the U.S. is we're getting hit disproportionately just because of the pattern of the warming." He called bleaching a crisis, especially with worsening warming forecast for the rest of the century: "If that's not a crisis, what is?" ([US News](#))

### The Pacific Ocean Becomes a Caldron

At the moment, the world's largest ocean is a troublesome place, creating storms and causing problems for people and marine life across the Pacific Rim and beyond. A partial list includes the strong El Niño system that has formed along the Equator, and another unusually persistent zone of warm water that has been sitting off the North American coast, wryly called "the Blob." "The Blob" has been associated, among other effects, with the unusually dry and warm weather in the western United States and linked to unprecedented harmful algal blooms along the coasts that have rendered shellfish toxic and shut down shellfish fisheries in Washington, Oregon and California. El Niño's effects are linked to drought in Australia and enormous peat fires in Indonesia. On top of all that is the grinding progress of climate change, caused by accumulation of greenhouse gases generated by human activity. Dr. Nicholas A. Bond, a research meteorologist, said the confluence of problems can serve as a wake-up call, "We have a real chance with this kind of event to see what's going to happen, and show folks, 'Hey, this is the consequence of messing around with the climate.'" ([New York Times](#))

### Study: Climate Change May Cause Species Collapse

The effects of climate change on oceans may lead to a marine food chain collapse that will affect fish integral to human diets, according to a recent study published in the *Proceedings of the National Academy of Sciences*. It shows that warming of ocean waters and acidification would likely prove a bigger threat to fishes up the food chain. "They will need more food, but less food will be available -- and these are the fish that we like to eat," said University of Adelaide Professor Ivan Nagelkerken. "There will be a species collapse from the top of the food chain down." Small plankton lower down the food chain are most likely to thrive in warmer waters. But ocean acidification means that the populations of zooplankton and smaller fish would suffer. Warmer waters would boost the fishes' metabolism and thus increase their demand for food. The impacts of this mismatch will be amplified up the food chain, depriving carnivorous fish like tuna and sharks of food. ([EE News](#))

